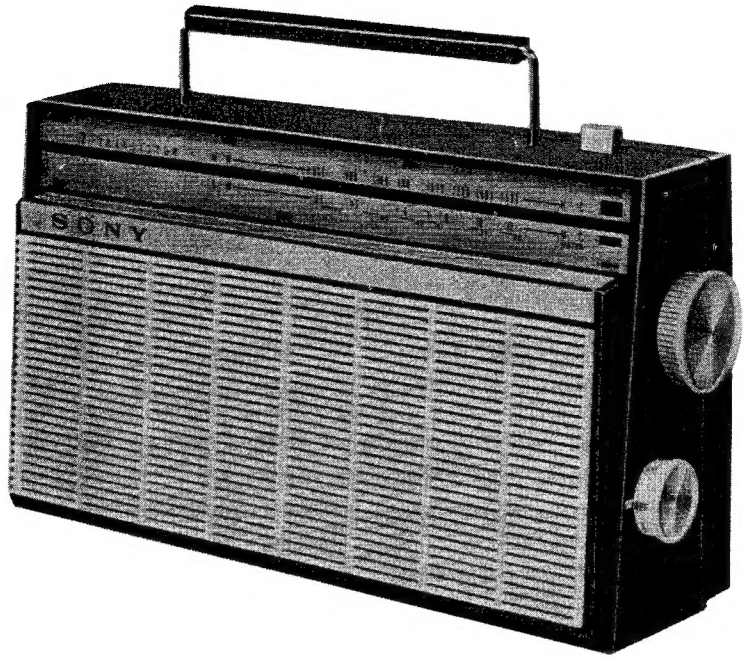
SONY® Transistor Radio Circuits I

CONTENTS



Specifications

Circuit :	7 Transistor Superheterodyne
Frequency Coverage :	MW 530~1,605 Kc (566~187 m) SW 3.9~12 Mc (77~25 m)
Intermediate Frequency :	455 Kc
Antenna System :	Built-in Ferrite Bar Antenna Auxiliary Antenna Lead
Maximum Sensitivity :	MW 22μV/m with built-in Ferrite Bar Antenna
(at 10 mW output)	SW 22μV/m with built-in Ferrite Bar Antenna
Selectivity :	17 dB at 10 Kc off resonance, at 1,400 Kc
Output Power :	560 mW (undistorted), 2.12 Volts across 8Ω load
Speaker :	4" PM dynamic, 8Ω
Battery :	Four size "D" Flashlight Batteries (6 Volts)
Current Drain :	15 mA at zero signal, 195 mA at 560 mW Output
Dimensions :	11-7/16" × 6-3/8" × 3-7/16" (290 × 162 × 87.5 mm)
Weight :	4.3 lbs. (1.95 Kg.)

Adjustments

a) Frequency Coverage Adjustment

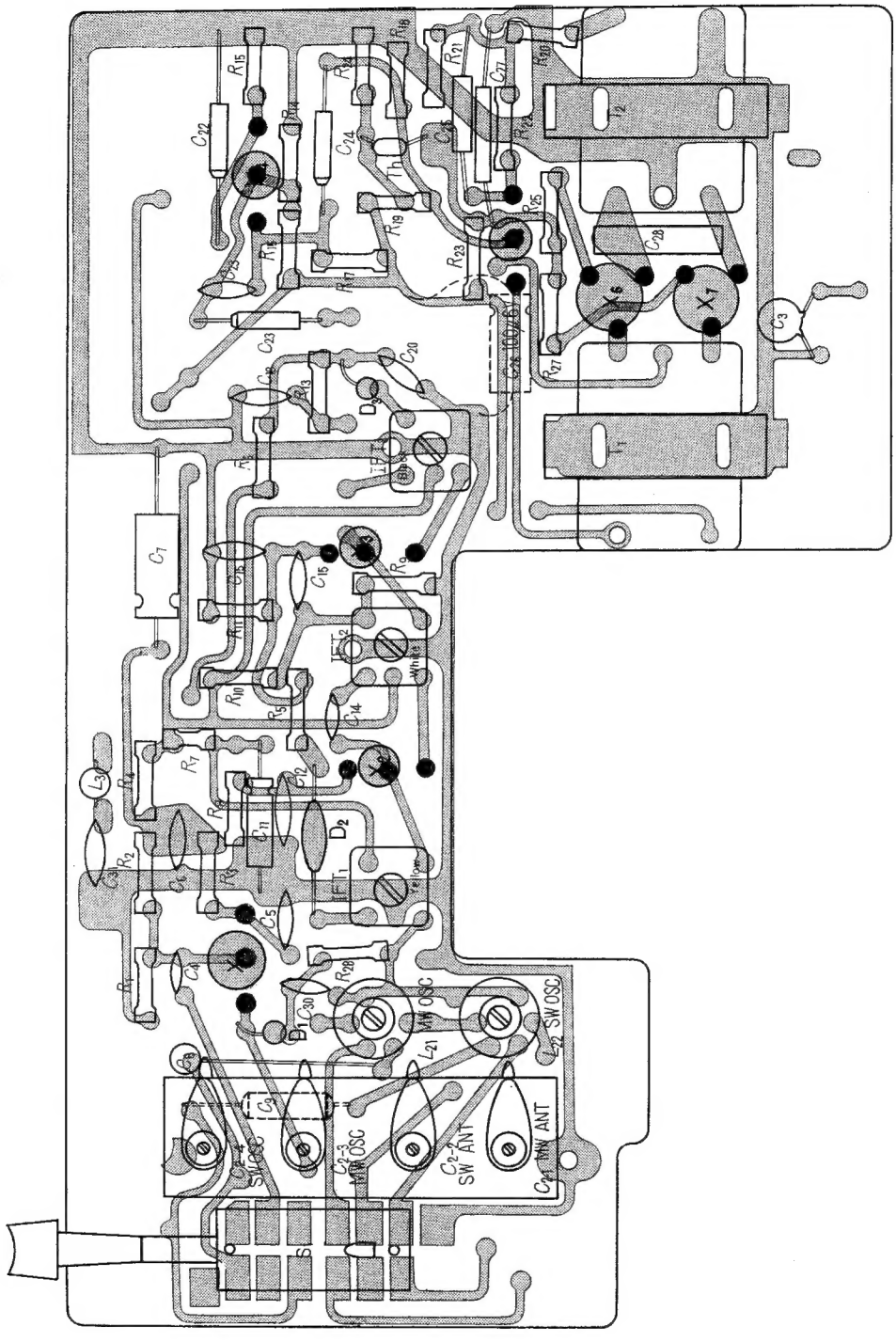
	Lower Limit	Adjust	Upper Limit	Adjust
MW	520 Kc	Core of MW OSC Coil (L_{21})	1,680 Kc	MW OSC Trimmer (C_{2-3})
SW	3.8 Mc	Core of SW OSC Coil (L_{22})	12.6 Mc	SW OSC Trimmer (C_{2-4})

b) Tracking Adjustment

	Lower Checking Point	Adjust	Upper Checking Point	Adjust
MW	620 Kc	Position of MW ANT Coil (L_{11})	1,400 Kc	MW ANT Trimmer (C_{2-1})
SW	3.8 Mc	Position of SW ANT Coil (L_{12})	12.6 Mc	SW ANT Trimmer (C_{2-2})

Mounting Diagram

— Parts Side —



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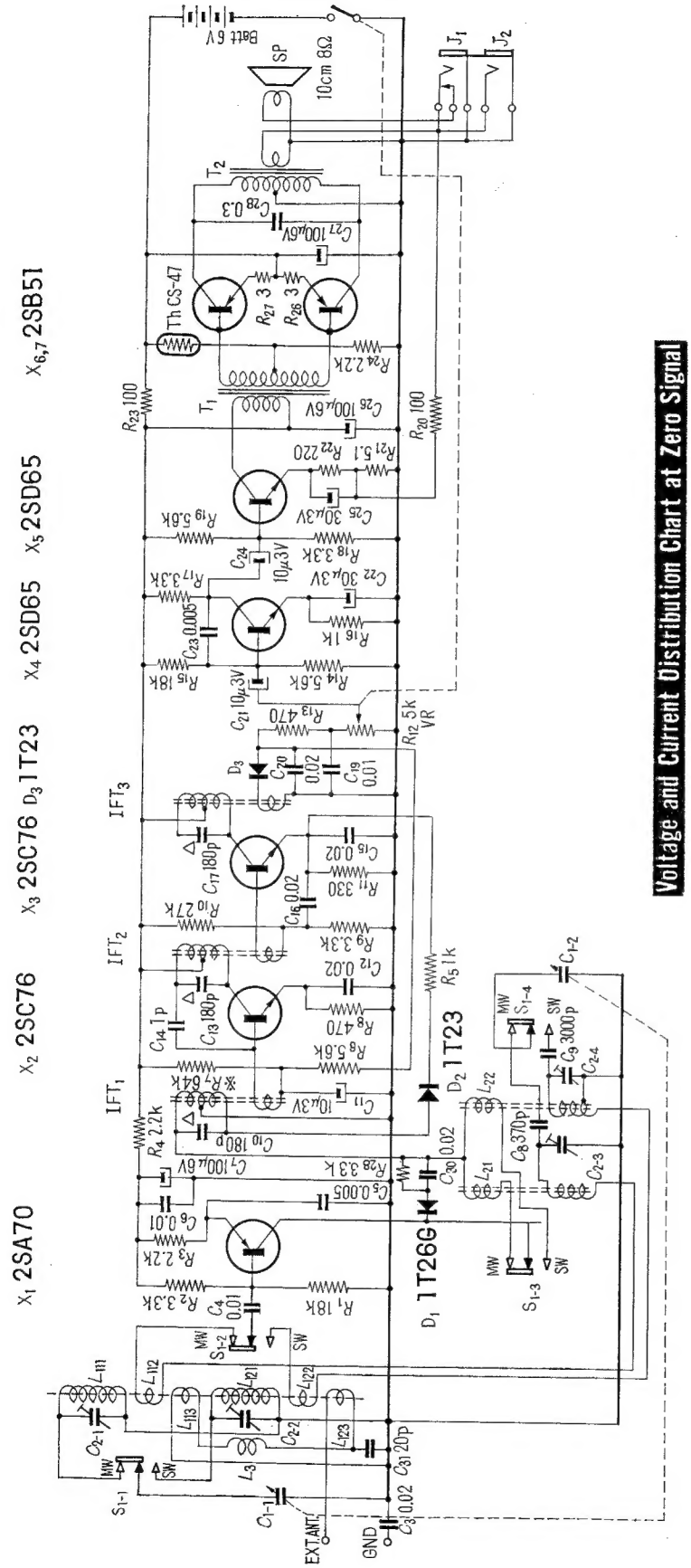
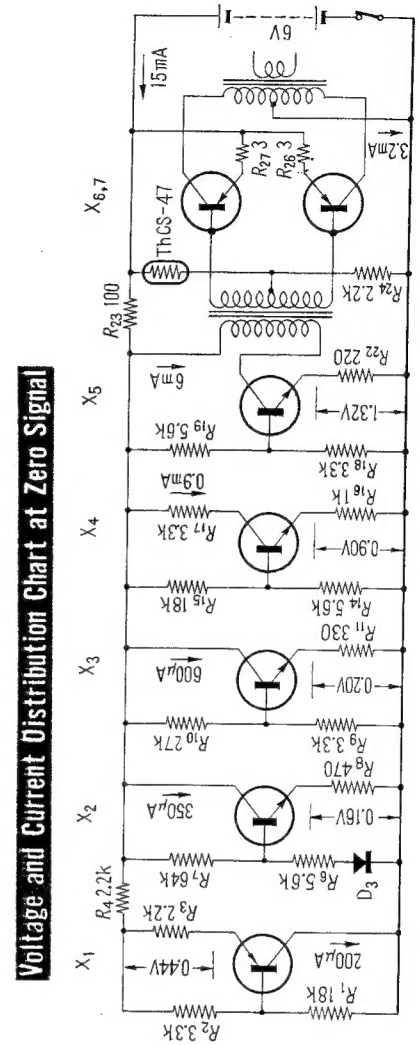
Schematic Diagram

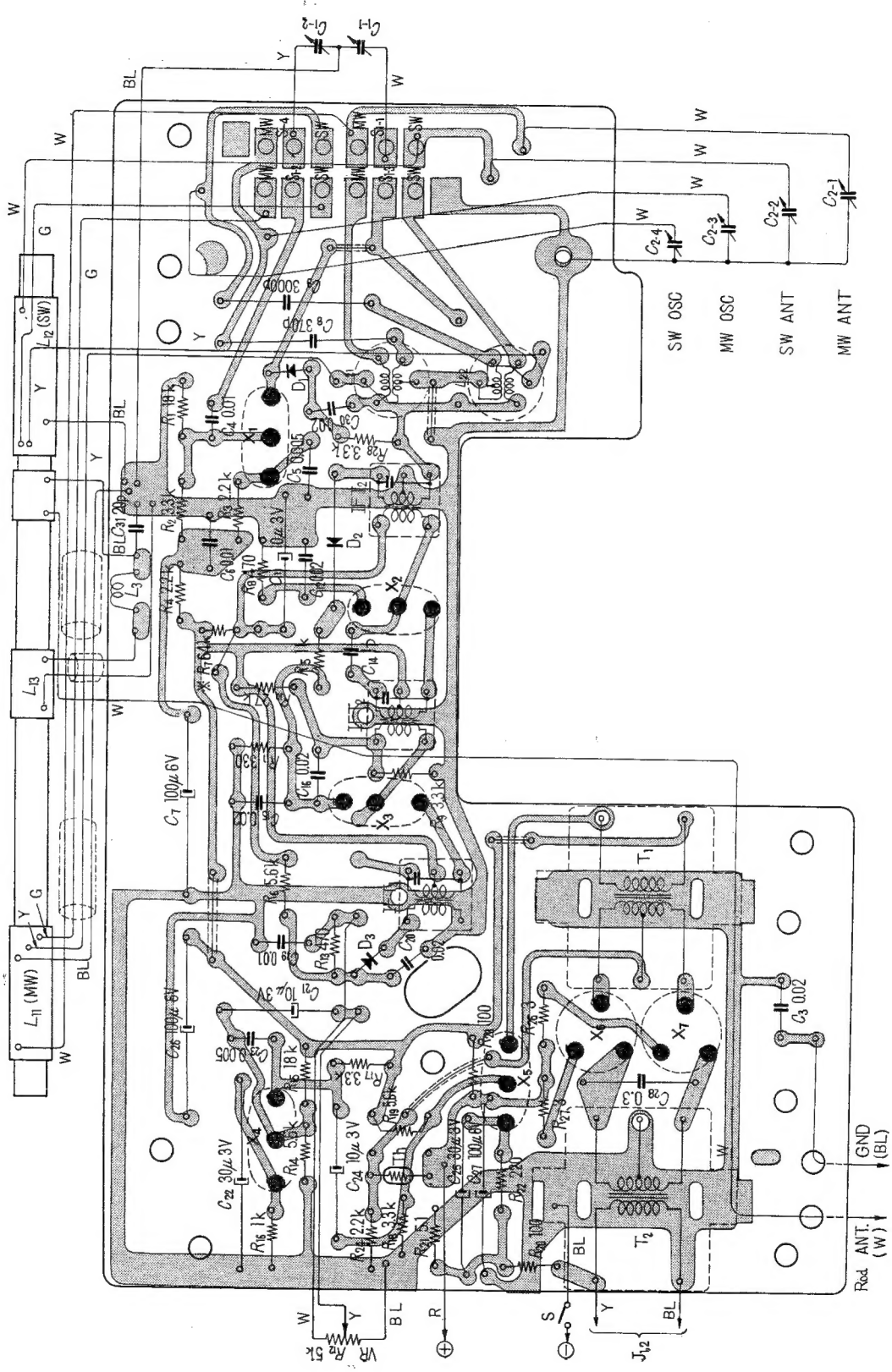




◎ ※---To be adjusted
◎ △---Built in IF Transformers

Mounting Diagram

— Printed Side —



MW Band

Frequency Coverage Adjustment

(1) Deliver a 520 Kc signal from the SSG.

(2) Set the Tuning Capacitor at the maximum capacitance position by turning the Tuning Knob of the Receiver counter-clockwise.

(3) Adjust the core of the MW OSC Coil to tune to the signal.

(4) Set the Tuning Capacitor at the minimum capacitance position by turning the Tuning Knob of the Receiver clockwise.

(5) Deliver a 1,680 Kc signal from the SSG.

(6) Adjust the MW OSC Trimmer Capacitor to tune to the signal.

(7) Repeat the above procedures (1～6) until the frequency range between 520 Kc and 1,680 Kc is fully covered.

Tracking Adjustment

(1) Deliver a 620 Kc signal from the SSG.

(2) Tune to the signal by turning the Tuning Knob of the Receiver.

(3) Adjust the position of the MW ANT Coil along the Ferrite Bar to obtain the maximum output.

(4) Deliver a 1,400 Kc signal from the SSG.

(5) Tune to the signal by turning the Tuning Knob of the Receiver.

(6) Adjust the MW ANT Trimmer Capacitor to obtain the maximum output.

(7) Repeat the above procedures (1～6) until the maximum output is obtained.

SW Band

(1) Set the Tuning Capacitor at the maximum capacitance position by turning the Tuning Knob of the Receiver counter-clockwise.

(2) Deliver a 3.8 Mc signal from the SSG.

(3) Adjust the core of the SW OSC Coil to tune to the signal.

(4) Adjust the core (position) of the SW ANT Coil (along the Ferrite Bar) to obtain the maximum output.

(5) Set the Tuning Capacitor at the minimum capacitance position by turning the Tuning Knob of the Receiver clockwise.

(6) Deliver a 12.6 Mc signal from the SSG.

(7) Adjust the SW OSC Trimmer Capacitor to tune to the signal.

(8) Adjust the SW ANT Trimmer Capacitor to obtain the maximum output.

(9) Repeat the above procedures (1～8) until the specified frequency range (3.8～12.6 Mc) is fully covered and the maximum output is obtained.

FM Band

Frequency Coverage Adjustment

(1) Set the modulation of the SSG to "AM".

(2) Deliver a 86.5 Mc signal from the SSG.

(3) Set the Tuning Capacitor at the maximum capacitance position by turning the Tuning Knob of the Receiver counter-clockwise.

(4) Adjust the core and gap of the FM OSC Coil to tune to the signal.

(5) Deliver a 108 Mc signal from the SSG.

(6) Set the Tuning Capacitor at the minimum capacitance position by turning the Tuning Knob of the Receiver clockwise.

(7) Adjust the FM OSC Trimmer Capacitor to tune to the signal.

(8) Repeat the above procedures (2~7) until the frequency range between 86.5 Mc and 108 Mc is fully covered.

Tracking Adjustment

(1) Set the modulation of the SSG to " AM ".

(2) Deliver a 86.5 Mc signal from the SSG.

(3) Tune to the signal correctly by turning the Tuning Knob of the Receiver.

(4) Change the modulation of the SSG to " FM "

(5) Adjust the FM RF Coil for the maximum reading on the Output Meter.

(6) Change the modulation of the SSG to " AM "

(7) Deliver a 108 Mc signal from the SSG.

(8) Tune to the signal correctly by turning the Tuning Knob of the Receiver.

(9) Change the modulation of the SSG to " FM ".

(10) Adjust the FM RF Trimmer Capacitor to obtain the maximum output.

(11) Repeat the above procedures (1~10) until the maximum output is obtained.

Frequencies used for the above adjustment are a little different with some models.